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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,988	11/27/2000	Tinku Acharya	INTL-0514-US (P9822)	5871

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EXAMINER

LEE, Y YOUNG

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 07/09/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

5/11

# Office Action Summary

Application No.  
09/722,988

Applicant(s)  
Tinku Acharya et al

Examiner  
Y. Lee

Art Unit  
2613



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## **DETAILED ACTION**

### ***Specification***

1. The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

The following order or arrangement is preferred in framing the specification and, except for the reference to the drawings, each of the lettered items should appear in upper case, without underling or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) Title of the Invention.
- (b) Cross-Reference to Related Applications.
- (c) Statement Regarding Federally Sponsored Research or Development.
- (d) Reference to a "Sequence Listing," a table, or a computer program listing appendix submitted on compact disc (see 37 CFR 1.52(e)(5)).
- (e) Background of the Invention.
  1. Field of the Invention.

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2. Description of the Related Art including information disclosed under 37 CFR 1.97 and 1.98.

- (f) Brief Summary of the Invention.
- (g) Brief Description of the Several Views of the Drawing(s).
- (h) Detailed Description of the Invention.
- (i) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).
- (k) Drawings.
- (l) Sequence Listing, if on paper (see 37 CFR 1.821-1.825).

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 3-7, 10, 12-16, 19, 21-25, 28, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Van der Auwera et al (6,532,265).

Van der Auwera et al, in Figures 1, 11, and 13, discloses the same method and system for video compression as specified in claims 1, 3-7, 10, 12-16, 19, 21-25, 28, and 30 of the present invention, comprising providing error data (i.e. subtractor) to indicate motion 70 in an image 10; determining a characteristic of the error data (e.g. intra/inter); and based on the characteristic, determining whether to use the error data 20 to indicate motion 70 in an image 10.

With respect to claims 3-7, 12-16, 21-25, 28, and 30, Van der Auwera et al also discloses providing error data 20 includes taking the difference between two successive discrete wavelet transform coded image frames in an image sequence 10; determining whether or not the error data exceed a predetermined threshold value (e.g.  $\leq 0$  norm); if the magnitude of the error data is below the value (e.g. 0), using a motion vector 130 only to indicate motion in the image; if the magnitude of the error data exceeds the value (e.g.  $>0$ ), using a motion vector 130 and the error data 20 to indicate motion in the image; arithmetic coder 30 to code the error data 20; and uses multi-resolution motion estimation (90, 100).

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***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2, 8, 9, 11, 17, 18, 20, 26, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van der Auwera et al in view of Lee et al (6,351,491).

Although Van der Auwera et al discloses the zerotree wavelet video coding error data of the intensity values of pixels making up an image to be well known to one of ordinary skill in the art, it is noted Van der Auwera et al differs from the present invention in that it fails to particularly disclose and detail zerotree encoding steps as specified in claims 2, 8, 9, 11, 17,

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18, 20, 26, 27, and 29. Lee et al however, in Figures 1, 2, and 4, teaches the concept of such well known collection of ordered bits (Fig. 4), and coding the bits of each order to indicate zerotree roots that are associated with the order (Fig. 2) and inverts the zerotree encoding 112.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having both the references of Van der Auwera et al and Lee et al before him/her, to exploit the well known zerotree encoding technique as taught by Lee et al in the wavelet video coding system of Van der Auwera et al in order to more effectively optimizing the rate control.

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jeong discloses a video coding and decoding method and its apparatus.

8. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 872-9314, (for formal communications intended for entry)

(for informal or draft communications, please label


"PROPOSED" or "DRAFT")

**Or:**

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington. VA., Sixth Floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Y. Lee whose telephone number is (703) 308-7584.

  
**Y. LEE**  
**PRIMARY EXAMINER**

Y. Lee/yl  
June 26, 2003